

Notice of Allowability

Application No.

09/941,484

Examiner

John J. Tabone, Jr.

Applicant(s)

MUHTAROGLU, ALI

Art Unit

2138

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 08/29/2005.
2. ☒ The allowed claim(s) is/are 1-11,26,28-30 and 32-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

RESET DEADLINE
SUPERVISORY PATENT EXAMINER
10/27/2005

DETAILED ACTION

1. Claims 1-11, 26, 28-30 and 32-39 are pending in the application. Claims 1, 8, 26, 30, 33, and 37 are independent. Claims 1, 8, 26, 30, 33, and 37 have been amended. Claims 12-25, 27, 31 and 40-43 have been cancelled.

Response to Arguments

2. Applicant's amendment and accompanying arguments, filed 08/29/2005, have been fully considered and are persuasive.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Jan Little - Washington on 10/27/2005.

The application has been amended as follows:

Amend Claim 26:

- a. Change "logic" on line 6 to "test enable circuitry".
- b. Change "logic" on line 13 to "a boundary scan register".

Amend Claim 37:

- a. Change "logic" on line 5 to "input/output loop back compare circuitry".

Allowable Subject Matter

Claims 1-11, 26, 28-30 and 32-39 are allowed.

The following is an Examiner's Statement of Reasons for Allowance:

The present invention relates to component testing and, in particular to testing input levels on integrated circuits.

The claimed invention as set forth in claim 1 (broadest claim) recites features such as: an integrated circuit having circuitry to test input levels of the integrated circuit, the circuitry to test the input levels comprising a set of voltage generators to generate a set of direct current (DC) voltages, a set of sense amplifiers coupled to compare an externally supplied reference voltage with the set of DC voltages, wherein the set of DC voltages is increased or decreased incrementally to determine a set of trip points of the sense amplifiers, respectively and a boundary scan register coupled to each sense amplifier in the set of sense amplifiers to interpret the comparison of the externally supplied reference voltage and the set of DC voltages.

The prior arts of record teach that respective voltage signals from the DAC (voltage generator) and ramp generator RAMP (external reference voltage) are applied at the first and second inputs of a voltage comparator COMP (sense amplifier); Andrews (US-5231314) and Yang et al. (US-6310571) are examples of such prior arts. The prior arts of record, however, fail to teach, singly or in combination, circuitry to test the input levels of an integrated circuit wherein the set of DC voltages is increased or decreased

incrementally to determine a set of trip points of the sense amplifiers, respectively and a boundary scan register coupled to each sense amplifier in the set of sense amplifiers to interpret the comparison of the externally supplied reference voltage and the set of DC voltages. As such, modification of the prior art of record to include the claimed *input levels test circuitry* can only be motivated by hindsight reasoning, or by changing the intended use and function of the prior art themselves. Therefore, it is not clear that one of ordinary skill in the art at the time of the invention would have made the necessary modifications to the prior art of record to encompass the *input levels test circuitry* set forth in the present application. Moreover, none of the prior arts of record, taken either alone or in combination, anticipate nor render obvious the *input levels test circuitry* as set forth in claim 1. Independent claims 33 and 37 alternately use input/output loop back compare circuitry coupled to each sense amplifier in the set of sense amplifiers to interpret the comparison of the externally supplied reference voltage and the set of DC voltages. Hence, claims 1-11, 26, 28-30 and 32-39 are allowable over the prior arts of record.

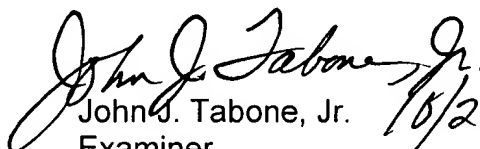
The Examiner agrees with the Applicant's arguments with regard to this feature in view of the arts of record; therefor, the Examiner favors the allowance of claims 1-11, 26, 28-30 and 32-39. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

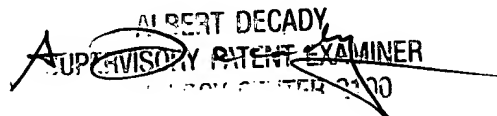
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Tabone, Jr. whose telephone number is (571) 272-3827. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John J. Tabone, Jr.
Examiner
Art Unit 2138
10/27/05


ALBERT DECADY
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